REMARKS

Claims 1 and 3 have been amended. Support for the amended subject matter can be found at least in original Claims 2, 4 and 5. Claims 2, 4, 5 and 11 have been canceled without prejudice or disclaimer. No new matter has been added and entry is respectfully requested. After entry of the above amendments, Claims 1, 3, 6-10 and 12-20 are pending. Claims 15-20 have been withdrawn.

Claims 1-3, 6-9 and 12-14 have been rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent Publication No. 2001/0026901 A1 to Maeda et al. (hereinafter referred to as "Maeda"). This rejection is respectfully traversed.

Claim 2 has been canceled. Claim 1 has been amended to incorporate the limitation(s) of Claim 4. Claim 4 was not rejected over Maeda. Claims 3, 6-9 and 12-14 depend either directly or indirectly from Claim 1. Accordingly, it is respectfully submitted that the amendments to Claim 1 have obviated this rejection. Reconsideration and withdrawal of this rejection is therefore respectfully requested.

Claims 1-14 have been rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent No. 6,416,928 to Ohsawa et al. (hereinafter referred to as "Ohsawa") in view of U.S. Patent No. 6,416,928 B1 to Nozaki et al. (hereinafter referred to as "Nozaki"). This rejection is respectfully traversed.

With regard to the limitation in original Claim 5, the Official Action states that ". . . the limitation of claim 5 wherein the acid-labile group containing resin is produced by random polymerization is a process limitation and has no patentable weight" (page 5 of the Official Action). Claim 1 has been amended to recite that the resin is a *random*

copolymer of the recurring units which form the resin. Accordingly, it is respectfully submitted that this limitation is a product limitation and must be considered. It is respectfully submitted that the Official Action has failed to establish *prima facie* obviousness for the resin composition of Claim 1. First, the Official Action has pointed to no teaching or suggestion in Ohsawa of a composition as set forth in Claim 1 comprising a resin which is a *random copolymer* of the recurring units which form the resin. In addition, in rejecting the claims, the Official Action is relying upon the disclosure at Column 15, lines 48-49 of Ohsawa of a resin having a polydispersity of less than 1.5 (Page 4 of the Official Action). Ohsawa, however, discloses that such polymers having low polydispersity ". . . can be synthesized by living anion polymerization" (column 15, lines 50-54 of Ohsawa). The use of living anionic copolymerization, however, would not produce a *random copolymer* as set forth in Claim 1. In particular, as disclosed in Matyjaszewski et al., "Handbook of Radical Polymerization", pp. 500-501 (a copy of which is enclosed), even for simple copolymer mixtures, well-defined random copolymers cannot be prepared using anionic procedures, including living anionic polymerization (pp. 500-501 of Matyjaszewski et al.). In view of the above, it is respectfully submitted that the Ohsawa reference, considered as a whole, would lead away from the composition as defined by Claim 1 comprising a resin which is a random copolymer. As set forth in the MPEP, "[a] prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention." MPEP § 2142.02 VI. Accordingly, it is respectfully submitted that Claim 1 is patentable over the cited references.

Claims 2, 4, 5 and 11 have been canceled. Claims 3, 6-10 and 12-14 depend either directly or indirectly from Claim 1 and are therefore also patentable over the cited references for at least the reasons set forth above with respect to Claim 1. Reconsideration and withdrawal of this rejection is therefore respectfully requested.

CONCLUSION

In view of the above amendments and remarks, Applicants respectfully request a Notice of Allowance. If the Examiner believes a telephone conference would advance the prosecution of this application, the Examiner is invited to telephone the undersigned at the below-listed telephone number.

Respectfully submitted,

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February 13, 2009
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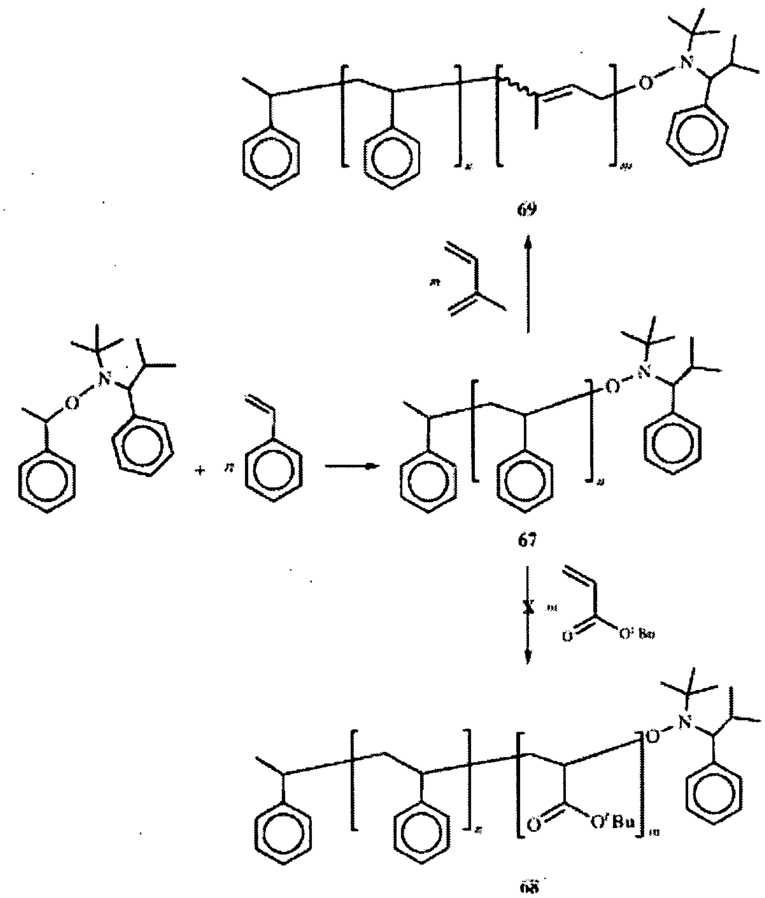
HANDBOOK OF RADICAL POLYMERIZATION

Krzysztof Matyjaszewski
Carnegie Mellon University, Pittsburgh, Pennsylvania

Thomas P. Davis
University of New South Wales, Sydney, Australia

WILEY-INTERSCIENCE
A John Wiley & Sons, Inc. Publication

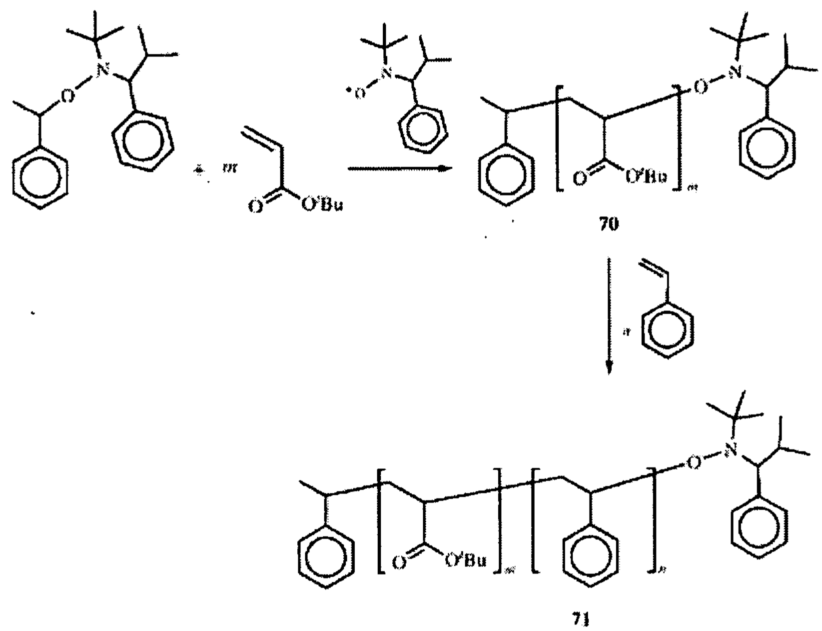


Scheme 10.22

with both a block and random copolymer structure should be compared with the difficulty in preparing **72** using other techniques.

10.6.4 Random Copolymers

One of the major advantages of normal radical procedures compared to living anionic or cationic polymerizations is the ability to prepare random copolymers. In traditional anionic or cationic procedures there are numerous problems that preclude the successful synthesis of random copolymers. For example, reactivity ratios can be large in anionic systems, and so true random copolymerizations do not occur and blocky structures are obtained. Alternatively, the polymerization conditions



Scheme 10.23

for one monomer, or functional group may not be compatible with the second monomer and a controlled polymerization is therefore not obtained. In fact, even for a simple comonomer mixture of styrene and methyl methacrylate, well-defined random copolymers cannot be prepared using anionic or cationic procedures. This lack of synthetic versatility has prompted numerous groups to explore the extension of living radical techniques to the preparation of well-defined random copolymers. While early work with TEMPO did demonstrate that random copolymers can be prepared under NMP conditions the inability to control the homopolymerization of monomers other than styrene limited the range of monomer units and possible random copolymer structures.[31,174,180] With the advent of second generation nitroxides, such as **36**, the possibilities for well-defined random copolymers have been dramatically increased. For example, while the homopolymerization of methacrylates does not give controlled polymers, random copolymers of methacrylates with up to 90 mol% of methacylate incorporation can be prepared in a living fashion.[53] The rationale for this stark contrast may be that incorporation of a small percentage of styrene as a comonomer reduces the H-abstraction reaction that normally leads to termination in methacrylate homopolymerization, to such an extent that the polymerization can now proceed in a living fashion.

The finding that the reactivity ratios for monomers under living free-radical conditions are essentially the same as under normal free-radical conditions is